AMENDMENTS TO THE CLAIMS

Applicant submits below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for persisting virtual private network structures across multiple network addresses assigned to a mobile node, the method comprising:

setting up a virtual private network tunnel between a virtual private network tunnel server and the mobile node, wherein virtual private network structures supporting the virtual private network tunnel are based upon a home address specified for the mobile node;

assigning a new network address to the mobile node, the new network address differing from the home address for the mobile node;

transmitting, by the mobile node, a binding update to the virtual private network tunnel server specifying the new network address; and

creating a mapped relation from the new network address to the home address for the mobile node and transmitting the home address and the new network address using a message packet with an extension header, thereby facilitating continued use of virtual private network structures that are based upon the home address for the mobile node.

2. (Original) The method of claim 1 wherein the virtual private network structures comprise security structures.

3. (Original) The method of claim 2 wherein the security structures comprise Internet security structures.

4. (Original) The method of claim 1 wherein the virtual private network structures comprise tunnel structures.

5. (Currently amended) The method of claim 1 ~~wherein~~ further comprising ~~the creating step comprises~~ updating, by the virtual private network tunnel server, a mapping structure to incorporate the new network address information provided within the binding update.

6. (Currently amended) The method of claim 1 further comprising~~, after~~ the ~~transmitting step, the further~~ steps of:

receiving, by the mobile node, [[a]] the message packet with the extension header from the virtual private network tunnel server ~~including the new network address~~; and

replacing, by the mobile node, the new network address [[by]] with the home address in a destination field of the received message packet.

7. (Currently amended) The method of claim 6 wherein the replacing, by the mobile node, [[step]] is performed by an intermediate protocol stack layer that implements packet address handling policies and wherein the received message packet is thereafter passed up to clients of the intermediate protocol stack layer.

8. (Original) The method of claim 7 wherein the intermediate protocol stack layer comprises an Internet protocol layer.

9. (Currently amended) The method of claim 1 further comprising~~, after the transmitting step,~~ the ~~further~~ step of:

placing, by the mobile node, the new network address within the source address field and the home address within [[an]] the extension header of packets transmitted to the virtual private network tunnel server.

10. (Original) The method of claim 9 further comprising the step of:

replacing, by the virtual private network tunnel server, the new network address by the home address specified within the extension header of the packets transmitted by the mobile node to the virtual private network tunnel server.

11. (Original) The method of claim 10 wherein the replacing step is performed by an intermediate protocol stack layer that implements packet address handling policies and wherein the received packets are thereafter passed up to clients of the intermediate protocol stack layer.

12. (Currently amended) A computer-readable medium including computer-executable instructions for facilitating persisting virtual private network structures across multiple network addresses assigned to a mobile node, the method comprising:

setting up a virtual private network tunnel between a virtual private network tunnel server and the mobile node, wherein virtual private network structures supporting the virtual private network tunnel are based upon a home address within a home network specified for the mobile node;

~~assigning~~ receiving a new network address [[to]] for the mobile node, the new network address differing from the home address for the mobile node;

transmitting, by the mobile node, a binding update to the virtual private network tunnel server specifying the new network address; and

creating a mapped relation from the new network address to the home address for the mobile node, thereby facilitating continued use of virtual private network structures that are based upon the home address for the mobile node by selectively processing received packets within a tunnel driver of an intermediate protocol stack layer of the mobile node, the processing within the tunnel driver being bypassed when the mobile node is connected in the home network.

13. (Original) The computer-readable medium of claim 12 wherein the virtual private network structures comprise security structures.

14. (Original) The computer-readable medium of claim 13 wherein the security structures comprise Internet security structures.

15. (Original) The computer-readable medium of claim 12 wherein the virtual private network structures comprise tunnel structures.

16. (Currently amended) The computer-readable medium of claim 12 ~~wherein the creating step comprises~~ further comprising updating, by the virtual private network tunnel server, a mapping structure to incorporate the new network address information provided within the binding update.

17. (Currently amended) The computer-readable medium of claim 12 further comprising computer executable instructions for performing~~, after~~ the ~~transmitting~~ step, ~~the further steps~~ of:

receiving, by the mobile node, a message packet with an extension header including the new network address from the virtual private network tunnel server ~~including the new network address~~; and

wherein the processing within the tunnel driver comprising replacing~~, by the mobile node,~~ the new network address [[by]] with the home address in a destination field of the received message packet.

18. (Currently amended) The computer-readable medium of claim 17 wherein the replacing step is performed by [[an]] the intermediate protocol stack layer that implements packet address handling policies and wherein the received message packet is thereafter passed up to clients of the intermediate protocol stack layer.

19. (Original) The computer-readable medium of claim 18 wherein the intermediate protocol stack layer comprises an Internet protocol layer.

20. (Currently amended) The computer-readable medium of claim 12 further comprising computer-executable instructions for performing~~, after the transmitting step,~~ the ~~further~~ step of:

placing, by the mobile node, the new network address within the source address field and the home address within an extension header of packets transmitted to the virtual private network tunnel server.

21. (Currently amended) A mobile network node facilitating persisting virtual private network structures across multiple network addresses assigned to the mobile node, the mobile node including a communications protocol stack comprising computer-executable instructions facilitating performing, by the mobile node, the steps of:

setting up a virtual private network tunnel between a virtual private network tunnel server and the mobile node, wherein virtual private network structures supporting the virtual private network tunnel are based upon a home address specified for the mobile node;

~~assigning~~ receiving a new network address [[to]] for the mobile node, the new network address differing from the home address for the mobile node;

transmitting, by the mobile node, a binding update to the virtual private network tunnel server specifying the new network address; [[and]]

transmitting the home address and the new network address using a message packet with an extension header;

~~creating a mapped relation from the new network address to the home address for the mobile node, thereby~~ facilitating continued use of virtual private network structures

that are based upon the home address for the mobile node by selectively processing received packets within a tunnel driver of an intermediate protocol stack layer of the mobile node to replace the new network address with the home address in a destination field of the message packet, the processing within the tunnel driver being bypassed when the mobile node is connected in the home network.

22. (Original) The mobile node of claim 21 wherein the virtual private network structures comprise security structures.

23. (Original) The mobile node of claim 22 wherein the security structures comprise Internet security structures.

24. (Original) The mobile node of claim 21 wherein the virtual private network structures comprise tunnel structures.

25. (Currently amended) The mobile node of claim 21 further comprising computer executable instructions for performing~~, after~~ the ~~transmitting~~ step~~, the further steps~~ of:

receiving, by the mobile node, [[a]] the message packet with an extension header including the new network address from the virtual private network tunnel server ~~including the new network address; and~~

~~replacing, by the mobile node, the new network address the home address in a destination field of the received message packet~~.

26. (Currently amended) The mobile node of claim 25 wherein following the replacing ~~step is performed by an intermediate protocol stack layer that implements packet address handling policies and wherein~~ the received message packet is ~~thereafter~~ passed up to clients of the intermediate protocol stack layer.

27. (Original) The mobile node of claim 26 wherein the intermediate protocol stack layer comprises an Internet protocol layer.

28. (Currently amended) The mobile node of claim 21 further comprising computer-executable instructions for performing~~, after the transmitting step,~~ the ~~further~~ step of:

placing, by the mobile node, the new network address within the source address field and the home address within [[an]] the extension header of packets transmitted to the virtual private network tunnel server.

29. (Currently amended) A virtual private network (VPN) server facilitating persisting virtual private network structures across multiple network addresses assigned to a mobile node, the VPN server including computer-executable instructions facilitating performing, by the VPN server, the steps of:

setting up a virtual private network tunnel between the VPN server and the mobile node, wherein virtual private network structures supporting the virtual private network tunnel are based upon a home address specified for the mobile node;

[[first]] receiving, from the mobile node, a binding update to the virtual private network tunnel server specifying a new network address that was assigned to the mobile node, the new network address differing from the home address for the mobile node; [[and]]

transmitting the home address and the new network address using a message packet with an extension header; and

creating a mapped relation from the new network address to the home address for the mobile node, thereby facilitating continued use of virtual private network structures that are based upon the home address for the mobile node by replacing the new network address with the home address.

30. (Original) The VPN server of claim 29 wherein the virtual private network structures comprise security structures.

31. (Original) The VPN server of claim 30 wherein the security structures comprise Internet security structures.

32. (Original) The VPN server of claim 29 wherein the virtual private network structures comprise tunnel structures.

33. (Currently amended) The VPN server of claim 29 ~~wherein the creating step comprises~~ further comprising updating, by the virtual private network tunnel server, a mapping structure to incorporate the new network address information provided within the binding update.

34. (Currently amended) The VPN server of claim 29 further comprising computer executable instructions for performing~~, after~~ the ~~first receiving step, the~~ steps of:

receiving, by the VPN server, a message packet including the new network address from the mobile node ~~including the new network address; and~~

replacing, by the virtual private network tunnel server, the new network address [[by]] with the home address specified within [[an]] the extension header of the received message packet.

35. (Currently amended) The VPN server of claim 34 wherein the replacing, by the virtual private network tunnel server, [[step]] is performed by an intermediate protocol stack layer that implements packet address handling policies and wherein the received packets are thereafter passed up to clients of the intermediate protocol stack layer.

36. (Original) The VPN server of claim 35 wherein the intermediate protocol stack layer comprises an Internet protocol layer.